0044356 LK4819

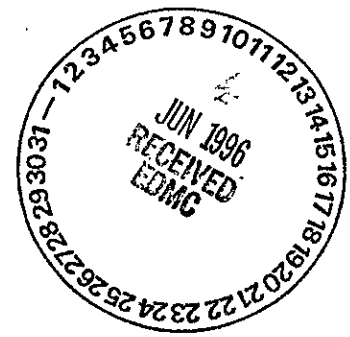
SAF-B95-053

Lockheed Environmental Systems & Technologies Co.
Lockheed Analytical Services
975 Kelly Johnson Drive Las Vegas, Nevada 89119-3705
Telephone 702-361-0220 800-582-7605 Facsimile 702-361-8146

LOCKHEED MARTIN

July 18, 1995

Ms. Joan Kessner
Bechtel Hanford, Inc.
345 Hills
P.O. Box 969
Richland, WA 99352



RE:	Log-in No.:	L4819
	Quotation No.:	Q400000-B
	SAF:	B95-053
	Document File No.:	0627596
	BHC Document File No.:	235
	SDG No.:	LK4819

The attached data report contains the analytical results of samples that were submitted to Lockheed Analytical Services on 27 June 1995.

The temperature of the cooler upon receipt was 2°C. Sample containers received agree with the chain-of-custody documentation. Sample containers were received intact. Samples were received in time to meet the analytical holding time requirements, with the exception of chromium VI.

The case narratives included in the following attachments provide a detailed description of all events that occurred during sample preparation, analysis, and data review specific to the samples and analytical methods requested.

A list of data qualifiers, chain-of-custody forms, sample receiving checklist, and log-in report are also enclosed representing the samples received within this group.

If you have any questions concerning the analysis or the data please call Kathleen Hall at (509) 943-4423.

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Release of this data report has been authorized by the Laboratory Director or the Director's designee as evidenced by the following signature.

" I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manger or a designee, as verified by the following signature."

Sincerely,

Karen Hermann for

Kathleen M. Hall
Client Services Representative

cc: Client Services
Document Control

CASE NARRATIVE
INORGANIC NON METALS ANALYSES

The routine calibration and quality control analyses performed for this batch include as applicable: instrument tune (ICP/MS only), initial and continuing calibration verification, initial and continuing calibration blanks, method blank(s), laboratory control sample(s), ICP interference check samples (ICP only), serial dilutions, analytical (post-digestion) spike samples, matrix spike (predigestion) sample(s), duplicate sample(s).

Preparation and Analysis Requirements

- One water sample was received for LK4819 and analyzed in batch 627 bh for selected analytes as requested on the chain of custody. Quality control analysis was performed on the following sample:

Client ID	LAL #		Method
BOFMB0	L4819-2	MS, DUP	7196 Hexavalent Chromium

Holding Time Requirements

- The samples for Method 7196 Hexavalent Chromium were received outside of holding time and all associated samples are flagged with an "H".

Method Blanks

- The concentration levels of all the requested analytes in the method blank were below the reporting detection limits.

Internal Quality Control

- All Internal Quality Control were within acceptance limits.

Kay McCann
Prepared By

July 6, 1995
Date

CASE NARRATIVE
INORGANIC METALS ANALYSES

The routine calibration and quality control analyses performed for this batch include as applicable: instrument tune (ICP/MS only), initial and continuing calibration verification, initial and continuing calibration blanks, method blank(s), laboratory control sample(s), ICP interference check samples (ICP only), serial dilutions, analytical (post-digestion) spike samples, matrix spike (predigestion) sample(s), duplicate sample(s).

Preparation and Analysis Requirements

All samples were received on June 27, 1995. The samples were logged in as L4819 and were prepared and analyzed in batch 627 bh.

Holding Time Requirements

- All samples were analyzed within the method-specific holding times.

Method Blanks

- The concentration levels of all the requested analytes in the method blank were below the reporting detection limits.

Internal Quality Control

- All Internal Quality Control were within acceptance limits.

Shellee McGrath
Prepared By

July 10, 1995
Date

Lockheed Analytical Services
DATA QUALIFIERS FOR INORGANIC ANALYSES
[Revised 08/28/92]

For Use on the Analytical Data Reporting Forms	
B	***For CLP Analyses Only*** -- Reported value is less than the contract required detection limit (CRDL) but greater than or equal to the instrument detection limit (IDL).
C	***For Routine, Non-CLP Analyses Only*** -- Any constituent that was also detected in the associated blank whose concentration was greater than the reporting detection limit (RDL).
D	Presence of high levels of interfering constituents required dilution of sample which increased the RDL by the dilution factor.
E	Estimated value due to presence of interference.
H	Sample analysis performed outside of method-or client-specified maximum holding time requirement.
M	***For CLP Analyses Only*** -- Duplicate injection precision criterion was not met.
N	Matrix spike recovery exceeded acceptance limits.
S	Reported value was determined from the method of standard addition.
U	***For CLP Reporting Only*** -- Constituent was analyzed for but not detected (sample quantitation must be corrected for dilution and percent moisture).
W	***For AAS Only*** -- Post-digestion spike for Furnace AAS did not meet acceptance criteria and sample absorbance is less than 50% of spike absorbance.
X, Y, or Z	Analyst-defined qualifier.
*****	Relative percent difference (RPD) for duplicate analysis exceeded acceptance limits.
+	Correlation coefficient (r) for the MSA is less than 0.995.
For Use on the QC Data Reporting Forms	
a[1]	The spike recovery and/or RPD for matrix spike and matrix spike duplicates cannot be evaluated due to insufficient spiking level compared to the elevated sample analyte concentration.
b[1]	The RPD cannot be computed because the sample and/or duplicate concentration was below the RDL.

[1] Used as footnote designations on the QC summary form.

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Jun 27 1995, 01:16 pm

Login Number: L4819
Account: 596 Bechtel Hanford, Inc. * Richland, WA
Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	PR	Due Date
L4819-1	B0FMB0	23-JUN-95	27-JUN-95		01-AUG-95
temp 2					
Location: 157					
Water 1 S	SCREENING	Hold:20-DEC-95			
L4819-2	B0FMB0	23-JUN-95	27-JUN-95		01-AUG-95
temp 2					
Location: 157					
Water 1 S	7196 CHROMIUM (VI)	Hold:24-JUN-95			
L4819-3	B0FMB0	23-JUN-95	27-JUN-95		01-AUG-95
temp 2					
Location: 157					
Water 1 S	218.2 CHROMIUM	Hold:20-DEC-95			
L4819-4	REPORT TYPE	27-JUN-95	27-JUN-95		01-AUG-95
Location:					
Water 1 S	EDD - DISK DEL.				
Water 1 S	INORG TYPE 2 RPT +				

Signature: [signature] 009

Date: 6.27.95

0027596

Environmental Restoration Contractor **ERC Team**

Interoffice Memorandum

Job No. 22192
Written Response Required: NO
CCN: N/A
OD: [illegible]
TID: N/A
ERA: N/A
Subject Code: 5400

TO: Dave Blumenkranz H4-90 DATE: April 26, 1995

COPIES: Doug Bowers N3-05 FROM: Mike Wesselman
Radiological Controls
N3-06/376-2084

Post-it® Fax Note 7671	Date 5/1	# of pages ▶ 1
To D. Bowers	From D. Blumenkranz	
Co./Dept. ITH/Samp.	Co. CHI/ERS	
Phone # 376-1007	Phone # 372-9658	
Fax # 376-5991	Fax #	

SUBJECT: **EXEMPTION OF SAMPLES FROM 100-HR-3 PUMP AND TREAT FROM TOTAL ACTIVITY ANALYSIS.**

After reviewing sampling data recorded on GeoDat as well as data from the latest resin change at the unit, it has been concluded that there is no need to perform total activity analysis of water sample from 100-HR-3 prior to offsite shipment. Water from all wells in the area is well below levels which would deliver 100 millirem per year CEDE to any one drinking two liters a day, no water exceeds the 2000 picocurie per gram limit for shipment as non radioactive by Department of Transportation. Activity trends in all wells have been downward for the last twenty years. Sample from the pump and treat system itself indicate less than six picocuries per gram of tritium and less than ten picocuries per liter of both alpha and beta contamination. All discharges of radioactive material to the ground in the 100-D Area have ceased, the actions of the pump and treat system do not appear to be mobilizing previously deposited materials. Based on the above information and the results of total activities performed to date, there is sufficient process knowledge to conclude that preshipment screening of water samples is no longer required.

Mike Wesselman

maw

Distribution

0027596

WHC/BHI SAMPLE CHECK-IN LIST

Date/Time Received: 6-27-95/0845 SDG #: NA

Work Order Number: NA SAF #: B95-053

Shipping Container ID: SMC-553 Chain of Custody # NA

1. Custody Seals on shipping container intact? Yes [X] No [ ]
2. Custody Seals dated and signed? Yes [X] No [ ]
3. Chain-of-Custody record present? Yes [X] No [ ]
4. Cooler temperature 2°C
5. Vermiculite/packing materials is Wet [ ] Dry [X]
6. Number of samples in shipping container: 3
7. Sample holding times exceeded: Yes [X] No [ ]
8. Samples have: ____ tape ____ hazard labels
   X custody seals X appropriate sample labels
9. Samples are: X in good condition ____ leaking
   ____ broken ____ have air bubbles
10. Were any anomalies identified in sample receipt? Yes [X] No [ ]
11. Description of anomalies (include sample numbers): holding time exceeded for Hex. Chrom.

Sample Custodian: [signature] On: 6-27-95

Telephoned To: Kathleen Hall On 6-27-95 By Anthony Miller

FORM NO. LS-042, Rev. 1, 2/95

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Sample Login
Login Review Checklist

Lot Number L4819

The login review should be conducted by that person logging in the samples as well as a peer. Please use this checklist to ensure that such reviews occur in a uniform basis. Please sign and date below to verify that a login review has occurred. This checklist should be affixed to each login package prior to distribution.

For effective login review, at a minimum, five reports form the login process are required. These are the COC (or equivalent), the login COC report, the sample summary report, the sample receiving checklist, and the login quotation. Before beginning review, ensure that these five components are available. Jobs with single component samples, the sample summary report may be omitted.

SAMPLE SUMMARY REPORT	YES	NO	N/A	Comment
1. Are all sample ID's correct?	X			
2. Are all samples present?	X			
3. Are all matrices indicated correctly?	X			
4. Are all analyses on the COC logged in for the appropriate samples?	X			
5. Are all analyses logged in for the correct container?	X			
6. Are samples logged in according to LAS batching procedures?	X			

LOGIN CHAIN OF CUSTODY	YES	NO	N/A	Comment
1. Are the collect, receive, and due dates correct for every sample?	X			
2. Have all appropriate comments been indicated in the comment section?			X	

SAMPLE RECEIVING CHECKLIST	YES	NO	N/A	Comment
1. Are all discrepancies between the COC and the login noted (if applicable)?			X	

primary review signature — 6-27-95 date

secondary review signature — 6-27-95 date

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CL027591

Lockheed Analytical Services
Sample Receiving Checklist

Client Name: Bechtel - Hanford   Job No. L4819   Cooler ID:

COOLER CONDITION UPON RECEIPT

	Yes	No	* Comments/Discrepancies
Temperature of cooler upon receipt:	2°C		
temperature of temp. blank upon receipt:			
custody seals intact	X		
chain of custody present	X		
blue ice (or equiv.) present/frozen	X		
rad survey completed	X		

SAMPLE CONDITION UPON RECEIPT

	Yes	No	* Comments/Discrepancies
all bottles labeled	X		
samples intact	X		
proper container used for sample type	X		
sample volume sufficient for analysis	X		
proper pres. indicated on the COC	X		
VOA's contain headspace			NA
are samples bi-phasic (if so, indicate sample ID'S):			NA

MISCELLANEOUS ITEMS

	Yes	No	* Comments/Discrepancies
samples with short holding times		X	Hex Chrom. received out of holding time
samples to subcontract		X	

ADDITIONAL COMMENTS/DISCREPANCIES

Completed by / date: [signature] 6·27·95

Sent to the client (date/initials):   ** Client's signature upon receipt:

*Notes: * = contact the appropriate CSR of any discrepancies immediately upon receipt*

*** = please review this information and return via facsimile to the appropriate CSR (702) 361-8146*

version 2.0 (11/11/94)

0627594

Westinghouse Hanford Company

L4819 CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Page 1 of 1

Data Turnaround: [ ] Priority [x] Normal

Collector: Doug Bowers / STEVE GUZER	Company Contact: Dave Blumenkranz	Telephone No.: 372-9658
Project Designation: 100 HR-3 Treatability Study	Sampling Location: 100 D	SAF No.: B95-053
Ice Chest No.: SMC-553	Field Logbook No.: EFL 1144-1	Method of Shipment: Air Freight
Shipped To: Lockheed	Offsite Property No.: W95-0-0204-37	Bill of Lading/Air Bill No.: 290-4632-832
Possible Sample Hazards/Remarks: unknown		
Special Handling and/or Storage: cool to 4 C		

Sample No.	Matrix*	Date Sampled	Time Sampled	Preservative	Type of Container	No. of Container(s)	Volume	Chromium - Total	Chromium VI	Activity Scan	Rad Screen 6/23/95
				HNO3	G/P	1	500 mL	Chromium - Total	Chromium VI	Activity Scan	Rad Screen
B0FMB0	W	6/23/95	0914					X	X	X	

CHAIN OF POSSESSION

Relinquished By	Date/Time	Received By	Date/Time
STEVEN J GUZER	6/23/95 1100	K. Trapp / K. Trapp	6/23/95 1100
K. Trapp / K. Trapp	6/26/95 0900		

SPECIAL INSTRUCTIONS

Analysis vor Chromium (VI) by SW -846 7196 is being requested for Information only. The ERC Contractor acknowledges the 24-hour holding time will not be met.

Matrix*

S	= Soil
SE	= Sediment
SO	= Solid
SL	= Sludge
W	= Water
O	= Oil
A	= Air
DS	= Drum Solids
DL	= Drum Liquids
T	= Tissue
WI	= Wipe
L	= Liquid
V	= Vegetation
X	= Other

LABORATORY SECTION	Received By: [illegible]	Title: Sample Custodian	Date/Time: 6/27/95 0845
FINAL SAMPLE DISPOSITION	Disposal Method:	Disposed By:	Date/Time:

Lockheed Analytical Laboratory
SAMPLE SUMMARY REPORT (su02)
Bechtel Hanford, Inc. * Richland, WA

Client Sample Number	LAL Sample Number	SDG Number	Matrix	Method
BOFMB0	L4819-1		Water	SCREENING
	L4819-2		Water	7196 CHROMIUM (V
	L4819-3		Water	218.2 CHROMIUM
REPORT TYPE	L4819-4		Water	EDD - DISK DEL.
	L4819-4		Water	INORG TYPE 2 RPT

062759

DETERMINATION OF CHROMIUM - SAMPLE RESULTS

Client: Bechtel Hanford	Date Collected: 06-23-95	Matrix: water
LAL Batch ID: 627 bh	Date Received: 06-27-95	Method: 218.2

Client Sample ID	Chromium in mg/L	IDL in mg/L	RDL in mg/L	data qualifier	Date Analyzed	LAL Sample ID
BOFMB0	0.47	0.040	0.20	D(1:20)	07-05-95	L4819-3

Comments:

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0FMB0	Date Collected: 23-JUN-95
Matrix: Water	Date Received: 27-JUN-95
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch ID	LAS Sample ID
Chromium, hexavalent	mg/L	7196	0.44	0.10	HD(1:5)	30-JUN-95	24719	L4819-2

LK 4819

Lockheed Analytical Laboratory
SAMPLE SUMMARY REPORT (su02)
Bechtel Hanford, Inc. * Richland, WA

Client Sample Number	LAL Sample Number	SDG Number	Matrix	Method
BOFMBO	L4819-1		Water	SCREENING
	L4819-2		Water	7196 CHROMIUM (V
	L4819-3		Water	218.2 CHROMIUM
REPORT TYPE	L4819-4		Water	EDD - DISK DEL.
	L4819-4		Water	INORG TYPE 2 RPT

0027594

LOCKHEED ANALYTICAL SERVICES

Sample Results

Client Sample ID: B0FMB0	Date Collected: 23-JUN-95
Matrix: Water	Date Received: 27-JUN-95
Percent Solids: N/A	

Constituent	Units	Method	Result	Project Reporting Limit	Data Qualifier(s)	Date Analyzed	LAS Batch ID	LAS Sample ID
Chromium, hexavalent	mg/L	7196	0.44	0.10	HD(1:5)	30-JUN-95	24719	L4819-2

DETERMINATION OF CHROMIUM - SAMPLE RESULTS

Client: Bechtel Hanford	Date Collected: 06-23-95	Matrix: water
LAL Batch ID: 627 bh	Date Received: 06-27-95	Method: 218.2

Client Sample ID	Chromium in mg/L	IDL in mg/L	RDL in mg/L	data qualifier	Date Analyzed	LAL Sample ID
BOFMB0	0.47	0.040	0.20	D(1:20)	07-05-95	L4819-3

Comments: